



MS RCE
PATENT
1422-0428P

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In Re Application of :
Teruo KUBOTA et al. : Group Art Unit: 1751
Serial No.: 09/581,594 :
Filed: June 15, 2000 : Examiner: DOUYON,
L. M.

For: **PROCESS FOR PRODUCING DETERGENT PARTICLES**

DECLARATION UNDER 37 C.F.R. 1.132

MS RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Teruo KUBOTA, residing in Wakayama-shi, Wakayama-ken, Japan, hereby declares and states as follows:

1. That I am one of the co-inventors of U.S. Application Serial No. 09/581,594 filed on June 15, 2000, entitled **PROCESS FOR PRODUCING DETERGENT PARTICLES**. I am thoroughly familiar with the contents of said Application, its prosecution before the United States Patent and Trademark Office and the references cited therein.
2. That I am a graduate of Nagoya University, School of Engineering, Department of Chemical and Biological Engineering in the year 1993, majoring in chemical engineering.

3. That I have been employed in Kao Corporation in the year 1993 and have been assigned to the Research Laboratories.

4. That I have been involved in the research and development of powder process engineering since 1993.

5. That I hereby affirm that the process of the present invention is completely different from the process disclosed in Yamashita U.S. Patent No. 5,468,516 (hereinafter simply referred to as "Yamashita US'516") and the method disclosed in Yamashita U.S. Patent No. 5,736,501 (hereinafter simply referred to as "Yamashita US'501") for the reasons set forth below.

The Present Invention

One of the most significant features of the process of the present invention resides in that detergent particles are obtained by treating a particle capable of adsorbing and storing a surfactant component (hereinafter referred to as "base particle," the component (a) of claim 1) under the specified conditions that the component (a) does not substantially undergo breakdown. Therefore, the surfactant components are adsorbed to the component (a), so that the aggregation of the particles would not be caused while controlling the operating conditions of the granulator in the granulating step in order to retain its particle shape. Very importantly, the granulation step is not essentially included in the process of the present invention.

Yamashita US'516

Yamashita US'516 discloses a process for producing nonionic detergent granules having a bulk density of from 0.6 to 1.2 g/ml, which comprises the following steps (1) to (3):

- (1) mixing a detergent material comprising a nonionic surfactant;
- (2) granulating a mixture obtained in said step (1) by agitating an agitating mixer provided at the center position thereof with a rotation shaft having an agitation impeller with a clearance between the agitation impeller and an inner wall of the mixer, wherein the agitation impeller agitates the mixture to form an adhesive layer of said mixture on said inner wall of said mixer so as to increase a bulk density of granules of the mixture; and
- (3) mixing the granules obtained in said step (2) with fine particles to thereby coat the surface of the granules with the fine particles (see Abstract of Yamashita US'516).

It is described in Yamashita US'516 that “[t]he detergent material taken between the adhesion layer and the impeller is compressed and undergoes a rolling action by rotation of the impeller, whereby spheroidization of the detergent material proceeds and the spheroidized detergent materials are peeled off from the adhesion layer (see column 7, lines 19-24 of Yamashita US'516).”

In other words, it is evident that the detergent material is granulated (built-up and agglomerated) by utilizing the adhesion layer, so that this process is completely distinguishable from the process for preparing uni-core detergent particles of the present invention.

Therefore, although the final granules may have overlapping ranges and the range of the degree of particle growth is somewhat close in some cases, the basic constitution and shape of a single particle would be completely different.

Yamashita US'501

Yamashita US'501 discloses a method for producing nonionic detergent granules comprising the steps of (I) blending the following (i) to (iii): (i) at least one of a nonionic surfactant and an aqueous nonionic surfactant solution; (ii) an acid precursor of an anionic surfactant capable of having a lamellar orientation; (iii) at least one of an alkali builder and an alkali, porous oil-absorbing carrier, to give a mixture of detergent starting materials containing the nonionic surfactant as a main surfactant component; and (II) heating the mixture obtained in step (I) at least up to a temperature capable of neutralizing the acid precursor of the anionic surfactant in an agitating mixer, and granulating while tumbling the agitating mixer, thereby increasing a bulk density, to give nonionic detergent granules having a bulk density of from 0.6 to 1.2 g/ml (see Abstract of Yamashita US'501). In this method, it is evident that the detergent starting materials are granulated (built-up and agglomerated), so that this method is completely distinguishable from the process for preparing uni-core detergent particles of the present invention. Incidentally, the acid precursor is neutralized to form a gelated product containing a nonionic surfactant, and the gelated product is used as a binder.

Therefore, although the final granules may have overlapping ranges and the range of the degree of particle growth is somewhat close in some cases, the basic constitution and shape of a single particle would be completely different.

6. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

7. Further declarant saith not.

Teruo Kubota
Teruo KUBOTA

Oct. 12, 2004
Date